

## WHAT CLAIMED IS:

1. A method for changing a frequency of a central processing unit (CPU) under the control of a neural network, comprising:

providing a plurality of environmental parameters;

5 calculating an output vector by inputting the environmental parameters to the neural network; and

changing the frequency of the CPU according to the output vector.

2. The method of claim 1, wherein the neural network is a radial neural network.

3. The method of claim 1, wherein the environmental parameter comprises a clock multiplier factor that the CPU uses currently.

4. The method of claim 1, wherein the environmental parameter comprises a clock multiplier factor that the CPU uses previously.

5. The method of claim 1, wherein the environmental parameter comprises a data accessing condition for an IDE (Intelligent Drive Electronics) controller.

15 6. The method of claim 1, wherein the environmental parameter comprises a data accessing condition for a DMA (Direct Memory Access) controller.

7. The method of claim 1, wherein the environmental parameter comprises a data accessing condition for an AGP (Accelerated Graphics Port) interface.

8. The method of claim 1, wherein the environmental parameter comprises a data accessing condition for a PCI (Peripheral Component Interconnect) interface.

9. A method for changing a frequency of a central processing unit (CPU) under the control of a neural network, wherein the neural network comprises  $m$  basis functions and  $m$  basis weights for calculating an output vector according to  $n$  environmental parameters, the method comprising steps of:

5 providing the  $n$  environmental parameters;

10 calculating  $m$  basis vectors by substituting the  $n$  environmental parameters into the  $m$  basis functions;

15 calculating the output vector according to the  $m$  basis weights and the  $m$  basis vectors; and

changing the frequency of the CPU according to the output vector, wherein  $m$  and  $n$  are positive integrals.

10. The method of claim 9, wherein the neural network is a radial neural network.

15 11. The method of claim 9, wherein the basis functions comprise a radial basis function.

12. The method of claim 11, wherein the radial basis function is a Gaussian function.

13. The method of claim 11, wherein the radial basis function is a multiquadric function.

14. The method of claim 9, wherein the environmental parameter comprises a clock multiplier factor that the CPU uses currently.

5 15. The method of claim 9, wherein the environmental parameter comprises a clock multiplier factor that the CPU uses previously.

16. The method of claim 9, wherein the environmental parameter comprises a data accessing condition for an IDE (Intelligent Drive Electronics) controller.

10 17. The method of claim 9, wherein the environmental parameter comprises a data accessing condition for a DMA (Direct Memory Access) controller.

18. The method of claim 9, wherein the environmental parameter comprises a data accessing condition for an AGP (Accelerated Graphics Port) interface.

19. The method of claim 9, wherein the environmental parameter comprises a data accessing condition for a PCI (Peripheral Component Interconnect) interface.

15 20. A method for changing a frequency of a central processing unit (CPU) under the control of a neural network, wherein the neural network comprises m basis functions for calculating an output vector according to n environmental parameters, the method comprising steps of:

(i) executing a learning procedure, further comprising:

providing p pseudo environmental parameters  
providing a pseudo output vector; and  
calculating m basis weights by the neural network according to the p  
pseudo environmental parameters and pseudo output vector; and

5 (ii) executing an application procedure, further comprising:

providing the n environmental parameters;  
calculating m basis vectors by substituting the n environmental parameters  
into the m basis functions;  
calculating the output vector according to the m basis weights and the m  
basis vectors; and  
10 changing the frequency of the CPU according to the output vector, wherein  
m, n and p are positive integrals.

21. The method of claim 20, wherein the neural network is a radial neural network.

22. The method of claim 20, wherein the basis functions comprise a radial basis

15 function.

23. The method of claim 22, wherein the radial basis function is a Gaussian  
function.

24. The method of claim 22, wherein the radial basis function is a multiquadric function.

25. The method of claim 20, wherein the pseudo environmental parameter comprises a clock multiplier factor that the CPU uses currently.

5 26. The method of claim 20, wherein the pseudo environmental parameter comprises a clock multiplier factor that the CPU uses previously.

10 27. The method of claim 20, wherein the pseudo environmental parameter comprises a data accessing condition for an IDE (Intelligent Drive Electronics) controller.

28. The method of claim 20, wherein the pseudo environmental parameter comprises a data accessing condition for a DMA (Direct Memory Access) controller.

29. The method of claim 20, wherein the pseudo environmental parameter comprises a data accessing condition for an AGP (Accelerated Graphics Port) interface.

15 30. The method of claim 20, wherein the pseudo environmental parameter comprises a data accessing condition for a PCI (Peripheral Component Interconnect) interface.

31. The method of claim 20, wherein the environmental parameter comprises a clock multiplier factor that the CPU uses currently.

32. The method of claim 20, wherein the environmental parameter comprises a

clock multiplier factor that the CPU uses previously.

33. The method of claim 20, wherein the environmental parameter comprises a data accessing condition for an IDE (Intelligent Drive Electronics) controller.

34. The method of claim 20, wherein the environmental parameter comprises a 5 data accessing condition for a DMA (Direct Memory Access) controller.

35. The method of claim 20, wherein the environmental parameter comprises a data accessing condition for an AGP (Accelerated Graphics Port) interface.

36. The method of claim 20, wherein the environmental parameter comprises a data accessing condition for a PCI (Peripheral Component Interconnect) interface.

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